## MINIMIZATION OF PURGE NOX RELEASE FROM NOX TRAPS BY OPTIMIZING THE OXYGEN STORAGE CAPACITY

## **Abstract**

The present invention provides a catalyst for use in a  $NO_x$  trap that has reduced  $NO_x$  release during rich purges, increased  $NO_x$  conversion efficiency under stoichiometric conditions, and improved sulfur tolerance. The catalyst of this embodiment includes a precious metal, an oxygen storage component in contact with the precious metal, and a  $NO_x$  storage material. The oxygen storage component in contact with the precious metal is present in an amount that provides sufficient oxygen storage capacity to reduce the  $NO_x$  release from the  $NO_x$  trap during rich purges to less than 20% of the  $NO_x$  that is stored in the  $NO_x$  trap across the operating temperature window of the  $NO_x$  trap, increase the  $NO_x$  conversion efficiency under stoichiometric conditions to a value greater than 70%, and increase the sulfur tolerance of the  $NO_y$  trap.